

Annual Report of the Ontario School of Agriculture.

The Fourth Annual Report of the Ontario School of Agriculture, now before us, presents in detail a view of the several departments of the Experimental Farm for the year 1878. The number of pupils now on the roll is 146. They are from different parts of the Dominion, Quebec province sending four representatives of her agriculture and P. E. Island one. The County of Wellington and the City of Toronto are represented by much the greater number, ten each. Of the number mentioned, 94 are directly from the farm or garden.

The expenditure for the eleven months ending 30th November, 1878, was, for food, household expenses, business, miscellaneous, experiments, salaries and wages, \$18,618.45; the expenditure for implements, permanent improvements, library, laboratory and museum, \$4,135.56. Total for eleven months, \$22,754.

The President's report enters fully into the operations of the institution and what has been accomplished during the four years of its existence as an experimental farm. From it we learn that "a large amount of wet, uncultivated pasture land, covered often with underbrush and logs, had to be broken up; a large portion of the farm required to be drained ere it could be worked; the land already cultivated had to be cleaned of weeds; the whole of the fields had to be re-modelled, re-fenced, put into right shape, and all placed under definite rotation." We turn to

THE FIELD.

The rotation is the seven years', thus: 1, peas; 2, wheat or oats; 3, roots; 4, grasses with barley; 5, hay; 6, pasture; 7, pasture. The "local peculiarities" of the farm had guided the selection, and these are a very irregular character of soil and subsoil—inclining generally to light loam and varying from pure gravel through gravelly loam, light loam, loam, light clay loam, to what is nearly a clay—but gravel and clay loam predominating.

Fall Wheat—Five varieties were seeded by drill and cultivated as an experiment. The plots received an application of 25 loads per acre of well mixed farm-yard manure in the first week of September. Rolling was done on the 8th of April. Some parts were considerably lodged by heavy rain on 3rd of May, and on 3rd of July; heading was prominent on 13th of June, and a week later the work of the Hessian Fly became manifest by bent and falling plants throughout. Rust was at its greatest development the last week of June. Harvesting, 20th July. The produce of the varieties of wheat was as follows: Soule, 33 bush.; Clawson, 33 bush.; Arnold's Victor, 27½ bush.; Gold Medal, 33 bush.; Silver Chaff, 11½ bush. The Soule was least affected with rust and had the greatest weight per bushel, though not more than 61½ lbs.; the Soule was least attacked by the Hessian Fly. Our readers are well aware of the fact that a variety of wheat, though yielding large produce and of good quality in one locality, may not be adapted to another.

Spring Wheat—The land was in good order for roots, actually greasy in richness. Anticipating a rush of straw, 400 lbs. of salt per acre was given in order to check the growth and strengthen the straw. The yield of good clean grain was as follows: Russian, 15½ bush. per acre; Lost Nation, 13; Gordon, 12; White Fife, 13.

Oats—Part of the roughest and richest land carried these. Fall plowing with the common and gang plows in spring made a good seed-bed for hand-sowing on the 17th of May, at the rate of 2½ bush. per acre. Harvesting commenced on 7th of August. In order of merit this season oats are:—Black Tartarian, from Scotland, 56 bush. per acre;

New Zealand, 51; Hopetown 50; Emporium, 40. Tartarian straw was strong and on its feet, when all others were badly lodged. Emporium behaved worst under storms, and the Hopetown had as much as 60 bush. per acre on some parts.

Barley of the six-rowed variety was sown on the 10th May and harvested 6th August. The land had been plowed in the fall 9 inches deep and cultivated with the gang plow 4 inches deep in spring. Crop badly laid with storm; had to be cut with mower and gathered with horse-rake. It produced 27 bush. per acre; straw short and grain a dark sample. This was certainly a very bad crop.

Oats and Barley with different manures—The land was plowed on 6th May, thrice harrowed, and on 13th May the following manures applied broadcast with hand, before sowing by drill machine: Brockville superphosphate, 600 lbs. per acre; nitrate of soda, 300; gypsum, 600; bone-dust, 600. On the superphosphate lot oats yielded of grain 28½ bush.; barley, 12½. With nitrate of soda, oats 22½ bush.; barley, 11½. With gypsum, oats 22½ bush.; barley, 10. With bone-dust, oats 11½ bush.; barley, 9½. The low yield of grain obtained in this experiment is certainly unaccountable. The land was in good tilth, and even were no fertilizers applied the yield would be accounted very light.

A. E.

Report of the Fruit Growers' Association of Ontario.

From the President's Annual Address:

THE YELLOWS IN OUR PEACH ORCHARDS IMPORTED FROM THE UNITED STATES.

"Another subject, and pressing, demanding the immediate and prompt attention of our members, is the ravages of 'the Yellows' in our peach orchards. Mr. A. M. Smith, nurseryman, Drummondville, deserves well of our Association in that he has been sounding the trumpet of warning in reference to this destructive agent. In a recent communication to me, he says: 'The peach-growers of Grimsby, and, I might say, of Ontario, are in trouble, and are in danger of a great calamity, and not only peach-growers, but all lovers of this delicious fruit as well.' It is spreading with fearful rapidity in Western New York, nearly all the orchards, in what was formerly the best peach section, being more or less affected. Some orchards are entirely ruined by it. Mr. Smith further says that he and others have been examining the orchards in and around Grimsby, and traces of the disease are found in several places. 'The Committee of investigation found out this fact, that in all the orchards where there were symptoms of the disease, there were more or less trees which had been imported from the States, and where the trees were all home grown, there was not one as yet affected. The disease is no doubt disseminated in diseased pips, buds, and young trees, and fruit of the present year. There have been hundreds of baskets of diseased peaches shipped from Western New York to Canada, and you will hear the universal verdict wherever it has been sold, that it is tasteless and almost worthless.

"I am old-fogy enough to think that good laws, well executed, are the characteristics of good government, and the instrumentalities of great benefits. When the Short-horn class of cattle, and other breeds, were threatened with Pleuropneumonia, what did the Government do? Why, they at once, on the advice of leading agriculturists, issued an order in Council to stop the importation of cattle. What was necessary in the case of cattle, seems to me equally urgent in the case of importation of diseased fruit and fruit trees. We must protect ourselves and our interests. Representation should at once be made to the Privy Council, consultation held, and action urged.

"Trees affected with Yellows have the pith as brown as a nut, which has led me to conclude after a deal of observation and thought, that the root of these, and kindred evils is to be found in the injury done by cold, and in being allowed to overbear. Tender shoots of the peach, especially those in shade, are first to show symptoms of Yellows. In late fall these shoots are found growing vigorously—they cannot resist the cold—the sap vessels are burst, the sap becomes frozen, the due elaboration of the juices is prevented, and disease is the consequence. Trees propagated from these diseased stocks propagate the disease. Fruit grown from such diseased trees bear marks, as Mr. Smith says, of the ravages of the evil, in its tastelessness, and worthlessness.

"It might justly be noted here that premature and diseased fruit from Ohio, and other States, anticipates our Canadian markets. These introductions lower the price of our Canadian horticultural products. Our fruit-growers are thus deprived of the benefit accruing from being first in the market."

THE GRAPE IN CANADA.

"Mr. Paffard, on a recent visit which I made to Niagara, showed me in his garden several exotic varieties, and among them a vine of Black Hamburgs, which has been in full bearing for six years, and produces yearly a heavy crop. It may not be generally known that Mr. Paffard secured a bronze medal for the grapes at the Centennial. The bunch weighed 16½ ounces. An esteemed correspondent writes of these grape vines, and says:—'The protection in winter consists merely in laying down the vine and covering it with a little garden mould, and the growth is as rapid and vigorous, and the bearing as full as any of the hardier kinds, while the shape, size, colour and flavour of the clusters and fruit will compare favourably with the best specimens produced under glass.'

From discussions by members:

THE CANKER WORM.

"The insect has made its appearance in some places in great numbers, doing great damage to the orchards by eating the leaves, often stripping the trees entirely, so that they are destitute of foliage as in the winter.

"J. J. Bowman had quite too much experience, having suffered severely from their depredations. The female moth is wingless, comes out of the ground in November, crawls up the trunk of the tree and lays her eggs. From these eggs the worms hatch out in the spring, devour the leaves, and disappear about the middle of June, going into the ground, when they undergo their transformations and come forth again as moths in the autumn. He had tried Paris green in water, sprinkled upon the leaves, and it had killed them.

"Linus Woolverton, Grimsby, had considerable experience with these canker-worms, and tried three ways of combating them. Had found the use of bandages, smeared with tar, pitch tar, not coal tar, the easiest and very successful. After a few days the tar hardens and it becomes necessary to make a fresh application. Had also used Paris-green mixed with water, applying it with a garden pump. This must be put on very early in the season, as soon as the buds burst, else the mischief will have been done. Had also tried fall ploughing, say in the end of October, with a view of breaking up and exposing the chrysalids, and thought this had a beneficial effect."

THE APPLE TREE BORER.

"Mr. Jones, of Rochester, N. Y., said that he heaped coal ashes around the tree at the collar, and had found this useful in preventing the borer from attacking the tree. Also that Mr. R. J. Swan spread coal ashes under his currant and gooseberry bushes, and believed that the application saved them from the attacks of the sawfly.

"P. E. Bucke, Ottawa, applied coal ashes which had been used as an absorbent of night-soil to the surface of the ground under his currant and gooseberry bushes, and had not been troubled with the sawfly."

PROTECTION TO PEACH ORCHARDS.

"Mr. Honsberger has been in the habit of planting his peach trees in the spaces among the apple trees, and letting the peach trees take their chances with the apples, but he was now growing a hedge of Norway spruce to protect his peach trees from the south-west winds.

"E. Morden would protect peach orchards especially on the west and north.

"W. Haskins would protect the west, south-west, and south sides, and thought protection preferable to planting on an elevated site."

THE BEST TREES TO PLANT FOR PROTECTION.

"On this subject there was a great diversity of opinion. The sugar maple, bass-wood, Scotch pine, Norway spruce, Austrian pine, Lombard poplar, were all recommended.

Among the varieties of fruits specially commended are Mr. Dougalls' seedling plum—Stem moderately long, flesh rather coarse, quality fair, fragrant, superior in quality to Yellow Egg, stone very small; very promising plum. Wahelings' seedling peach, a large and handsome peach, good rich flavoured, raised from the stone in Westminster.

Mr. Woods' crab-apple, just as pleasant eating as many of our dessert apples.